

Project Number: G104239938

Date Issued: 11/27/2024

ETL Verified Certificate of Conformance number: 2034144CRT-003

Test Report Number: 104239938CRT-025b



Applicant:

Berk-Tek LLC
132 White Oak Rd
New Holland, PA 17557

Manufacturer:

Berk-Tek LLC
132 White Oak Rd
New Holland, PA 17557

Applicant Contact: Mr. Michael Boland

Mfg. Contact: Mr. Michael Boland

Dear Mr. Boland

Intertek is pleased to provide this letter report covering the testing of your 4-pair, 23 AWG, U/UTP, CMP, horizontal (solid) cable covered by ETL Verified certificate of conformance number 2034144CRT-003. The sample was randomly selected by an Intertek inspector from your manufacturing facility, Berk-Tek LLC, on 10/23/2024 for Quarter 4 2024 follow-up testing.

The testing was performed at Intertek located in Cortland, NY from 11/4/2024 through 11/4/2024, to the ANSI/TIA-568.2-D; ISO/IEC 11801-1 and LM-2000 standard(s) for category 6 and passed the applicable requirements.

We have appreciated this opportunity to be of service to you. If there are any questions regarding this letter or any other services offered by Intertek, Please do not hesitate to contact us.

Sincerely,

A handwritten signature in black ink that reads "Antoine Pelletier".

Antoine Pelletier
Project Engineer
Global Cabling Products Testing
e-mail: antoine.pelletier@intertek.com
Phone: (607) 758-6718

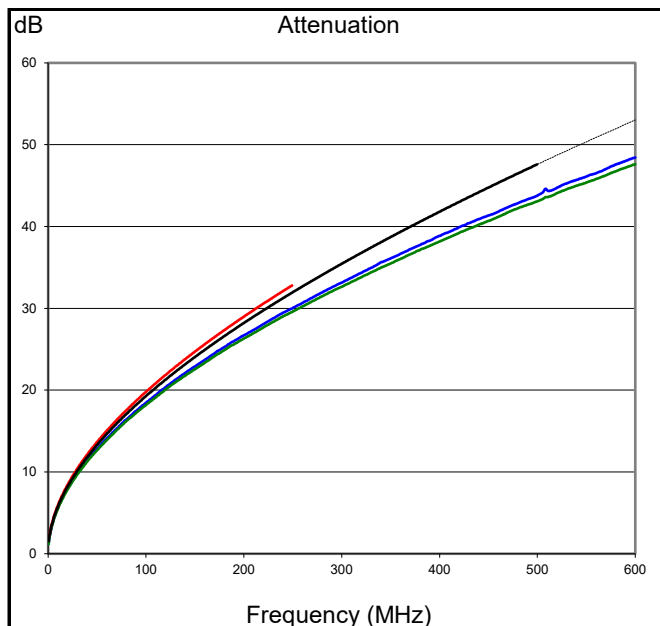
A handwritten signature in black ink that reads "Craig L. Williams".

Craig L. Williams
Technician
Global Cabling Products Testing
Phone: (607) 758-6321

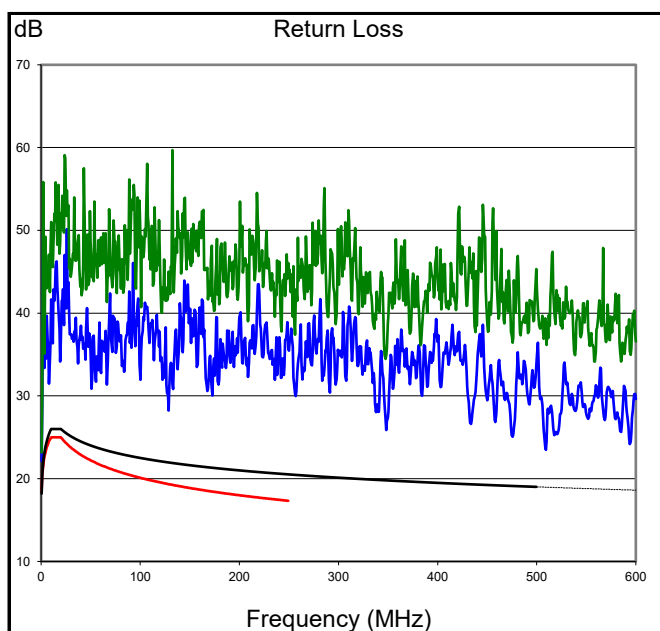
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-2000
ANSI/TIA-568.2-D, Category 6
ISO/IEC 11801-1, Category 6
Part Number LM-2000 CMP UTP
Description **Berk-Tek LM-2000 CMP**
4X23 UTP-CMP-Solid

Test Started 11/4/2024 14:10
Technician Craig Williams
Report No. 104239938CRT-025b
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



Attenuation					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	2.0	1.9	2.0	2.0	N/A
4	3.6	3.6	3.7	3.8	3.8
8	5.0	4.9	5.2	5.3	5.4
10	5.7	5.6	5.8	6.0	6.0
16	7.2	7.1	7.4	7.6	7.6
20	8.0	7.9	8.2	8.5	8.5
25	9.0	8.9	9.3	9.5	9.6
31.25	10.1	9.9	10.4	10.7	10.7
62.5	14.4	14.2	15.0	15.4	15.5
100	18.5	18.2	19.3	19.8	19.9
250	30.0	29.6	32.0	32.8	33.0
350	36.1	35.5	38.7		
500	43.8	43.1	47.6		
600	48.4	47.6			
Limit Margin (dB) :			0.18	0.27	0.33
Frequency (MHz) :			4.25	2.00	5.00



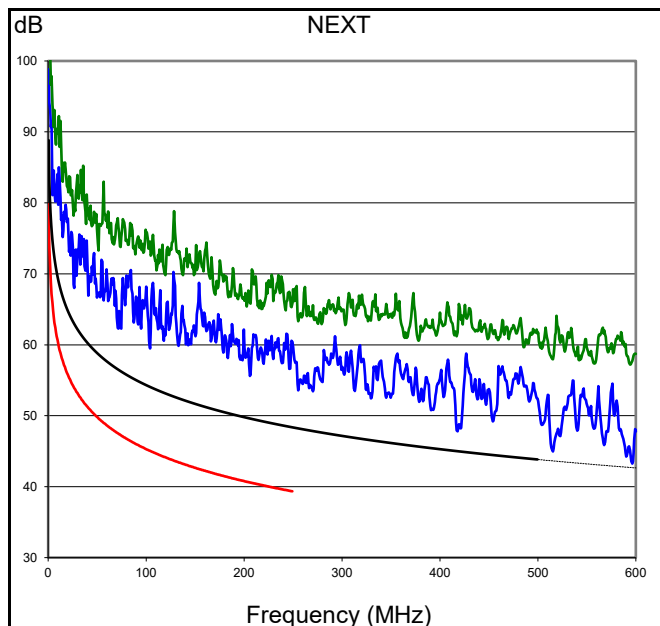
Return Loss					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	28.3	29.4	20.0	20.0	N/A
4	39.2	49.2	23.6	23.0	23.0
8	31.5	47.0	25.4	24.5	24.5
10	41.7	51.0	26.0	25.0	25.0
16	43.3	48.3	26.0	25.0	25.0
20	36.5	52.1	26.0	25.0	25.0
25	40.6	51.8	25.5	24.3	24.3
31.25	36.9	45.7	25.0	23.6	23.6
62.5	35.6	49.6	23.5	21.5	21.5
100	31.9	49.0	22.5	20.1	20.1
250	35.7	46.0	20.5	17.3	17.3
350	27.4	38.7	19.8		
500	34.9	42.7	19.0		
600	29.6	36.6			
Limit Margin (dB) :			5.94	6.96	6.96
Frequency (MHz) :			475.60	7.99	7.99

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LM-2000 Specification

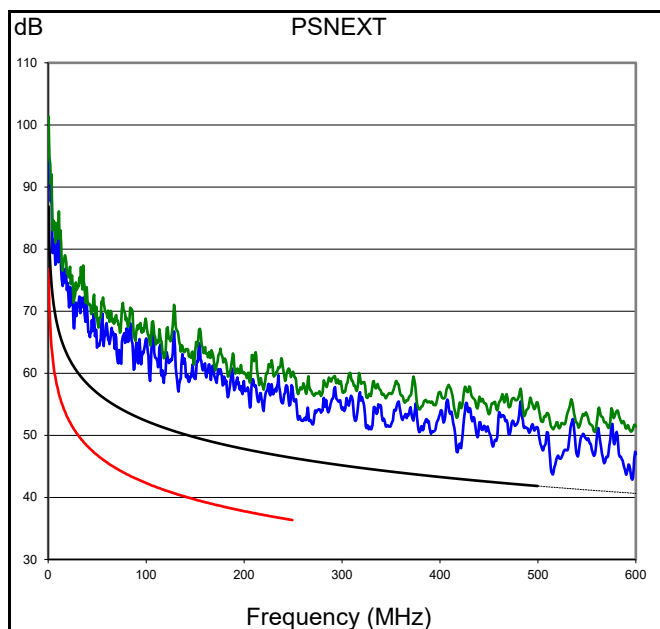
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-2000
ANSI/TIA-568.2-D, Category 6
ISO/IEC 11801-1, Category 6
Part Number LM-2000 CMP UTP
Description **Berk-Tek LM-2000 CMP**
4X23 UTP-CMP-Solid

Test Started 11/4/2024 14:10
Technician Craig Williams
Report No. 104239938CRT-025b
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



NEXT					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	94.1	103.1	84.3	74.3	N/A
4	81.1	93.8	75.3	65.3	66.3
8	82.3	88.2	70.8	60.8	61.8
10	79.7	89.8	69.3	59.3	60.3
16	78.7	84.4	66.3	56.2	57.2
20	77.8	82.1	64.8	54.8	55.8
25	73.5	79.6	63.3	53.3	54.3
31.25	73.6	80.6	61.9	51.9	52.9
62.5	66.7	75.7	57.4	47.4	48.4
100	68.2	75.8	54.3	44.3	45.3
250	60.4	65.9	48.3	38.3	39.3
350	52.5	64.3	46.2		
500	52.0	61.7	43.8		
600	47.8	58.7			
Limit Margin (dB) : 2.80 15.12 14.12					
Frequency (MHz) : 417.90 26.73 26.73					



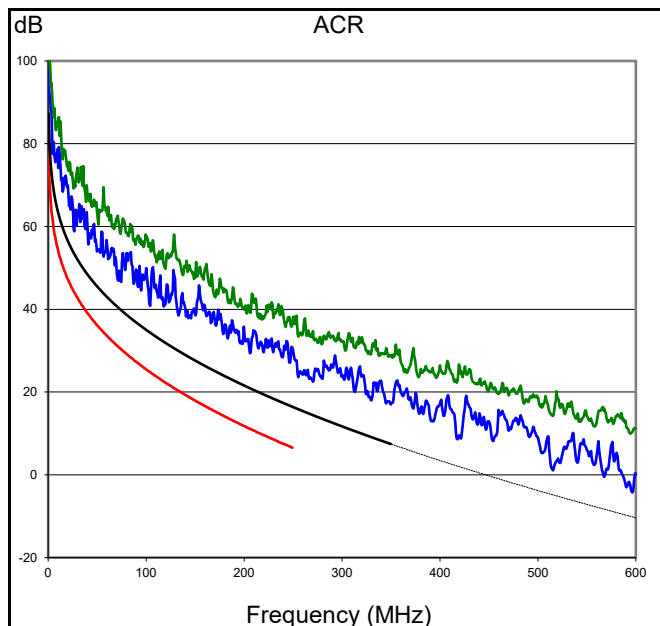
PSNEXT					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	92.3	94.9	82.3	72.3	N/A
4	79.4	83.0	73.3	63.3	63.3
8	79.0	82.0	68.8	58.8	58.8
10	77.9	81.7	67.3	57.3	57.3
16	76.5	78.2	64.3	54.2	54.2
20	74.5	76.2	62.8	52.8	52.8
25	71.0	73.5	61.3	51.3	51.3
31.25	71.5	74.0	59.9	49.9	49.9
62.5	64.7	68.3	55.4	45.4	45.4
100	65.6	68.3	52.3	42.3	42.3
250	57.8	60.1	46.3	36.3	36.3
350	51.5	56.8	44.2		
500	50.9	54.8	41.8		
600	46.9	51.4			
Limit Margin (dB) : 4.25 16.28 16.28					
Frequency (MHz) : 417.90 25.98 25.98					

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LM-2000 Specification

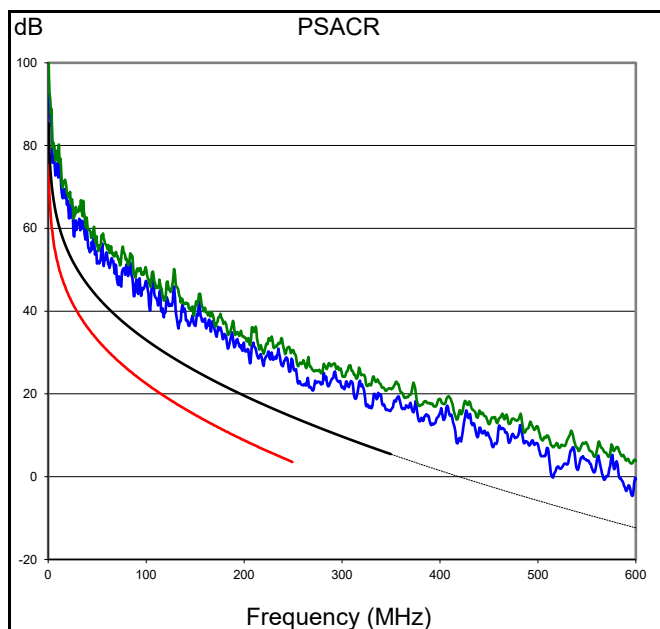
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-2000
ANSI/TIA-568.2-D, Category 6
ISO/IEC 11801-1, Category 6
Part Number LM-2000 CMP UTP
Description **Berk-Tek LM-2000 CMP**
4X23 UTP-CMP-Solid

Test Started 11/4/2024 14:10
Technician Craig Williams
Report No. 104239938CRT-025b
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



ACR					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	92.2	101.2	82.3	72.3	N/A
4	77.5	90.2	71.6	61.5	62.4
8	77.4	83.3	65.6	55.4	56.4
10	74.2	84.2	63.5	53.3	54.3
16	71.8	77.4	58.9	48.7	49.6
20	69.9	74.2	56.6	46.3	47.3
25	64.6	70.8	54.1	43.8	44.8
31.25	63.7	70.7	51.5	41.2	42.1
62.5	52.4	61.5	42.4	32.0	32.9
100	49.9	57.6	35.0	24.5	25.4
250	30.7	36.4	16.4	5.5	6.3
350	17.0	28.9	7.4		
500	8.8	18.7			
600	0.1	11.2			
Limit Margin (dB) : 5.51 15.78 14.85					
Frequency (MHz) : 26.73 26.73 26.73					



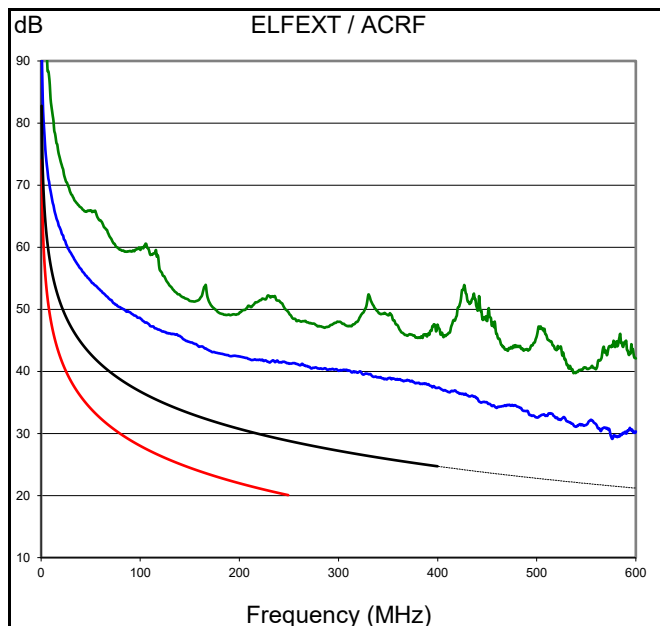
PSACR					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	90.4	93.0	80.3	70.3	N/A
4	75.8	79.5	69.6	59.5	59.4
8	74.1	77.1	63.6	53.4	53.4
10	72.3	76.1	61.5	51.3	51.3
16	69.3	71.1	56.9	46.7	46.6
20	66.7	68.4	54.6	44.3	44.3
25	62.3	64.6	52.1	41.8	41.8
31.25	61.5	64.1	49.5	39.2	39.1
62.5	50.4	54.1	40.4	30.0	29.9
100	47.3	50.0	33.0	22.5	22.4
250	28.1	30.6	14.4	3.5	3.3
350	15.9	21.3	5.4		
500	7.6	11.7			
600	-0.7	3.8			
Limit Margin (dB) : 6.68 16.84 16.88					
Frequency (MHz) : 25.98 4.25 25.98					

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LM-2000 Specification

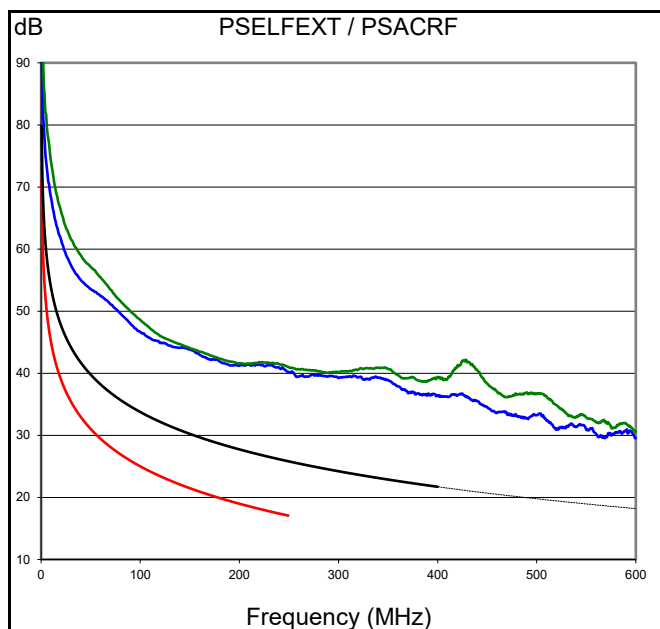
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-2000
ANSI/TIA-568.2-D, Category 6
ISO/IEC 11801-1, Category 6
Part Number LM-2000 CMP UTP
Description **Berk-Tek LM-2000 CMP**
4X23 UTP-CMP-Solid

Test Started 11/4/2024 14:10
Technician Craig Williams
Report No. 104239938CRT-025b
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



ELFEXT / ACRF					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	86.6	107.0	76.8	67.8	N/A
4	75.7	93.9	64.7	55.8	56.0
8	70.6	87.6	58.7	49.7	49.9
10	68.4	82.9	56.8	47.8	48.0
16	64.3	76.6	52.7	43.7	43.9
20	62.7	73.6	50.7	41.8	42.0
25	60.5	70.5	48.8	39.8	40.0
31.25	58.7	68.4	46.9	37.9	38.1
62.5	52.6	63.5	40.8	31.9	32.1
100	48.5	59.6	36.8	27.8	28.0
250	41.3	49.6	28.8	19.8	20.0
350	38.8	49.1	25.9		
500	32.6	45.9			
600	30.3	42.1			
Limit Margin (dB) : 11.10 20.05 19.85					
Frequency (MHz) : 172.86 172.86 172.86					



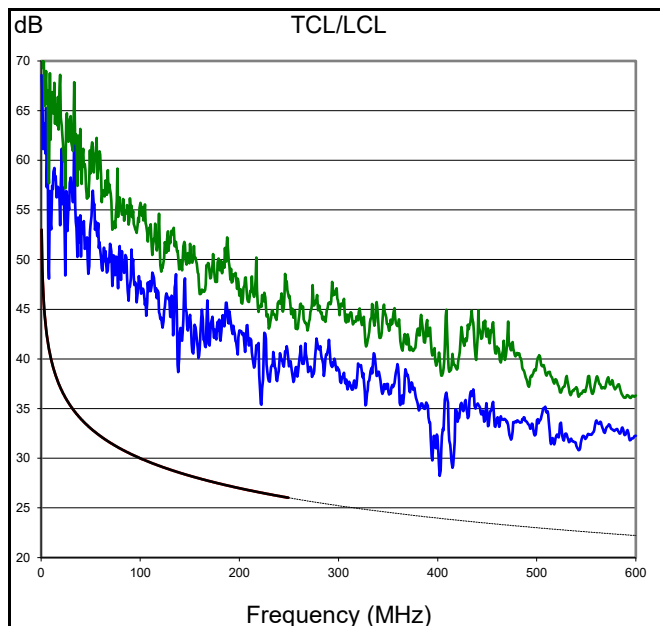
PSELFEXT / PSACRF					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	86.4	93.7	73.8	64.8	N/A
4	75.4	82.0	61.7	52.8	53.0
8	70.5	76.9	55.7	46.7	46.9
10	68.1	73.8	53.8	44.8	45.0
16	63.5	68.5	49.7	40.7	40.9
20	61.6	66.1	47.7	38.8	39.0
25	59.0	63.3	45.8	36.8	37.0
31.25	57.0	61.4	43.9	34.9	35.1
62.5	52.2	54.9	37.8	28.9	29.1
100	46.6	48.6	33.8	24.8	25.0
250	40.2	41.0	25.8	16.8	17.0
350	38.9	40.7	22.9		
500	33.2	36.6			
600	29.6	30.6			
Limit Margin (dB) : 12.64 21.59 21.39					
Frequency (MHz) : 112.16 112.16 112.16					

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LM-2000 Specification

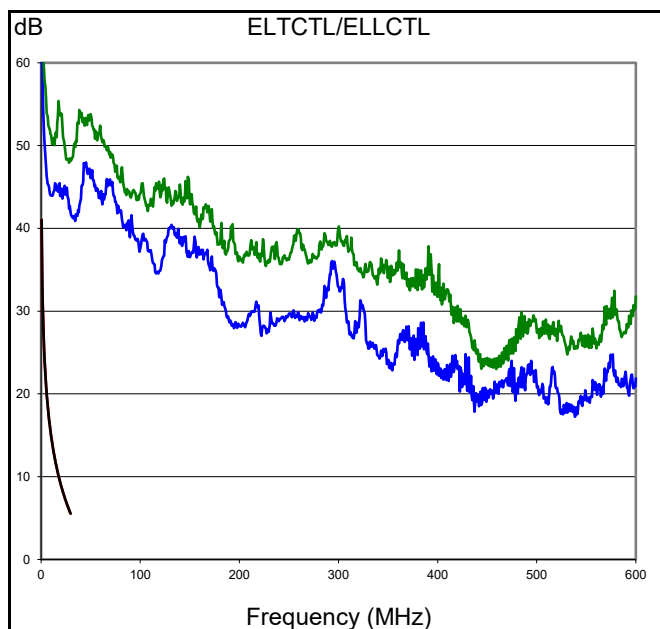
Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-2000
ANSI/TIA-568.2-D, Category 6
ISO/IEC 11801-1, Category 6
Part Number LM-2000 CMP UTP
Description **Berk-Tek LM-2000 CMP**
4X23 UTP-CMP-Solid

Test Started 11/4/2024 14:10
Technician Craig Williams
Report No. 104239938CRT-025b
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



TCL/LCL					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	67.1	74.4	50.0	40.0	50.0
4	60.7	67.6	44.0	40.0	44.0
8	48.1	57.7	41.0	40.0	41.0
10	53.0	65.3	40.0	40.0	40.0
16	56.9	63.5	38.0	38.0	38.0
20	57.6	64.3	37.0	37.0	37.0
25	56.9	64.0	36.0	36.0	36.0
31.25	57.0	61.4	35.1	35.1	35.1
62.5	50.3	57.0	32.0	32.0	32.0
100	47.8	55.7	30.0	30.0	30.0
250	40.0	46.5	26.0	26.0	26.0
350	37.5	43.5			
500	33.8	39.7			
600	32.3	36.3			
Limit Margin (dB) : 7.12 8.09 7.12					
Frequency (MHz) : 7.99 7.99 7.99					



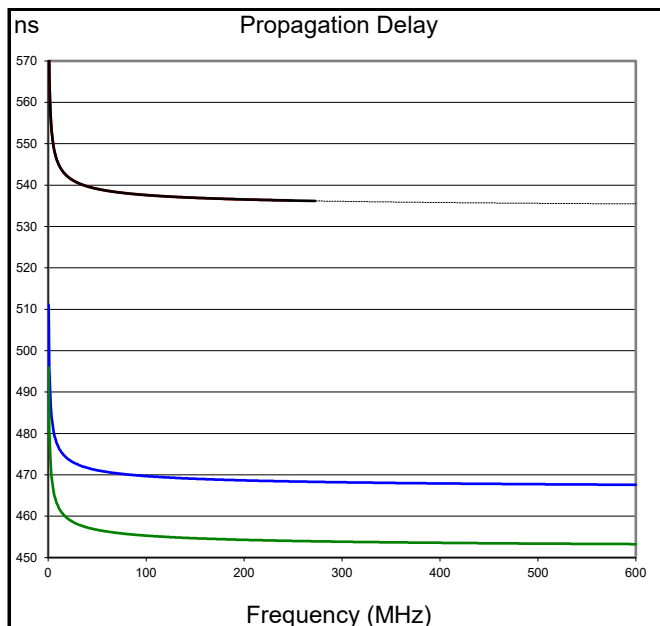
ELTCTL/ELLCTL					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	60.0	67.3	35.0	35.0	35.0
4	48.6	57.0	23.0	23.0	23.0
8	45.0	52.2	16.9	16.9	16.9
10	43.9	51.3	15.0	15.0	15.0
16	44.9	52.7	10.9	10.9	10.9
20	44.3	53.9	9.0	9.0	9.0
25	44.9	48.3	7.0	7.0	7.0
31.25	41.5	48.5			
62.5	44.1	50.7			
100	37.7	44.2			
250	29.4	36.3			
350	23.7	34.0			
500	20.8	27.4			
600	21.9	31.8			
Limit Margin (dB) : 25.38 25.38 25.38					
Frequency (MHz) : 2.00 2.00 2.00					

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LM-2000 Specification

Summary

Client Berk-Tek LLC
Specifications Berk-Tek LM-2000
ANSI/TIA-568.2-D, Category 6
ISO/IEC 11801-1, Category 6
Part Number LM-2000 CMP UTP
Description **Berk-Tek LM-2000 CMP**
4X23 UTP-CMP-Solid

Test Started 11/4/2024 14:10
Technician Craig Williams
Report No. 104239938CRT-025b
Length (m) 100
Temperature 21.9 °C
Test Status **PASS**



Propagation Delay					
Freq. MHz	Worst Case	Average	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1	495.4	480.7	570.0	570.0	N/A
4	482.5	467.9	552.0	552.0	552.0
8	478.2	463.7	546.7	546.7	546.7
10	476.8	462.3	545.4	545.4	545.4
16	474.7	460.2	543.0	543.0	543.0
20	473.9	459.4	542.0	542.0	542.0
25	473.1	458.6	541.2	541.2	541.2
31.25	472.4	458.0	540.4	540.4	540.4
62.5	470.6	456.2	538.6	538.6	538.6
100	469.7	455.3	537.6	537.6	537.6
250	468.4	454.0	536.3	536.3	536.3
350	468.1	453.7	535.9		
500	467.7	453.4	535.6		
600	467.6	453.3			
Limit Margin (dB) :			67.87	67.87	67.87
Frequency (MHz) :			226.06	226.06	226.06

Delay Skew				
Freq. MHz	Worst case	LM-2000 Spec	TIA Spec	ISO/IEC Spec
1-250	27.10	35	45	45

Low frequency measurements								
Parameter	Worst Case	Average	LM-2000		TIA		ISO/IEC	
			Spec	Margin	Spec	Margin	Spec	Margin
Mutual capacitance (nF/100m)	4.53	4.38	5.60	1.07	5.60	1.07	N/A	N/A
Maximum Capacitance Unbalance Pair-to-Ground (pF/100m)	13.80	7.42	160.00	146.21	330.00	316.21	160.00	146.21
Conductor DC resistance (Ω)	7.11	7.01	9.38	2.27	9.38	2.27	9.50	2.39
DC Resistance Unbalance within a pair (%) using IEC calculation method	0.37%	0.18%	1.50%	1.13%	2.50%	2.13%	2.00%	1.63%

Legend : Blue - Worst Case; Green - Average; Red - TIA and ISO/IEC Specifications; Black - LM-2000 Specification